

WHAT IS CLAIMED IS:

1. A composition for controlling plant diseases caused by pathogenic microorganisms, comprising (a) one or more of metal ion(s); (b) one or more of chelating agent(s); and (c) phosphorous acid, and/or salt or hydrate thereof, wherein said composition contains (a), (b) and (c) in a proportion so that when wet, (a) is present in an amount that is greater than 0% by weight and no greater than about 10% by weight, (b) is present in an amount that is greater than 0% and no greater than about 10% by weight, and (c) is present in an amount that is greater than 0% and no greater than about 70% by weight; and said composition provides a synergistic control of said plant diseases that is greater than the additive sum of the control provided by (c) and control provided by combination of (a) and (b).
2. The composition of claim 1, further comprising an effective amount of an acidifying agent.
3. The composition of claim 1, further comprising one or more of protective colloids, adhesives, thickening agents, penetrating agents, stabilizing agents, sequestering agents, fertilizers, anti-freeze agents, repellents, color additives, corrosion inhibitors, water-repelling agents, siccatives, UV-stabilizers, pigments, dyes and polymers.
4. The composition of claim 1, wherein said metal ion is copper, zinc, manganese, calcium, iron or aluminum.
5. The composition of claim 1, wherein said chelating agent is an aminopolycarboxylate, a hydroxycarboxylate or an amino acid.
6. The composition of claim 5, wherein said aminopolycarboxylate is EDTA, EDDHA, HEDTA, or DTPA.

7. The composition of claim 5, wherein said hydroxycarboxylate is citrate, saccharate, gluconate or glucoheptonate.

8. The composition of claim 5, wherein said amino acid is glycine.

9. The composition of claim 1, wherein said phosphorous acid salt is K_2HPO_3 , KH_2PO_3 , Na_2HPO_3 or NaH_2PO_3 .

10. The composition of claim 2, wherein said acidifying agent is citric acid, fulvic acid, lignosulfonate, or sulfuric acid.

11. The composition of claim 1 wherein said composition is in a form of a solid, a powder, liquid, a paste or a spray.

12. The composition of claim 1, wherein said pathological organisms are fungi or bacteria.

13. The composition of claim 12, wherein said fungi are selected from the group consisting of Phytophthora, Peronospora, Pseudoperonospora, Phythium, Rhizoctonia, Bremia and Albugo.

14. The composition of claim 12, wherein said bacteria are selected from the group consisting of Pseudomonas, Xanthomonas and Erwinia.

15. A method for controlling plant diseases caused by pathogenic microorganisms, comprising:

contacting said plant or the soil which surround the plant with a composition including one or more of metal ion(s); one or more of chelating agent(s); a phosphorous acid and/or a salt or hydrate thereof,

wherein said composition contains (a), (b) and (c) in a proportion so that when wet, (a) is present in an amount that is greater than 0% by weight and no greater than about 10% by weight, (b) is present in an amount that is greater than 0% and no greater than about 10% by weight, and (c) is present in

present in an amount that is greater than 0% and no greater than about 70% by weight; and said composition provides a synergistic control of said plant diseases that is greater than the additive sum of the control provided by (c) and control provided by combination of (a) and (b), thereby controlling said plant diseases caused by pathogenic microorganisms.

16. The method of claim 15 wherein said composition further comprises an acidifying agent.

17. The method of claim 15, wherein said metal ion is copper, zinc, manganese, iron, calcium or aluminum.

18. The method of claim 15, wherein said chelating agent is an aminopolycarboxylate, a hydroxycarboxylate or an amino acid.

19. The method of claim 18, wherein said aminopolycarboxylate is EDTA, EDDHA, HEDTA, or DTPA.

20. The method of claim 18, wherein said hydroxycarboxylate is citrate, saccharate, gluconate or glucoheptonate.

21. The method of claim 18, wherein said amino acid is glycine.

22. The method of claim 15, wherein said phosphorous acid salt is K_2HPO_3 , KH_2PO_3 , Na_2HPO or NaH_2PO_3 .

23. The method of claim 16, wherein said acidifying agent is citric acid, fulvic acid, lignosulfonate or sulfuric acid.

24. The method of claim 15, wherein said composition is in a form of a solid, a powder, liquid, a paste or a spray.

25. The method of claim 15, wherein said pathological organism is selected from the group consisting of fungi and bacteria.
26. The method of claim 25, wherein said fungi is selected from the group consisting of Phytophthora, Peronospora, Pseudoperonospora, Phythium, Rhizoctonia, Bremia and Albugo.
27. The method of claim 25, wherein said bacteria is selected from the group consisting of Pseudomonas, Xanthomonas and Erwinia.
28. The composition of claim 1, wherein the ratio between a first component comprising said one or more metal ion(s) and said one or more chelating agent and a second component comprising said phosphorous acid, the salt or hydrate thereof is 1:1 on a weight to weight basis.
29. The composition of claim 1, wherein a ratio between a first component comprising said one or more metal ion(s) and said one or more chelating agent and a second component comprising said phosphorous acid, the salt or hydrate thereof is 1:3 on a weight to weight basis.
30. The composition of claim 1, wherein a ratio between a first component comprising said one or more metal ion(s) and said one or more chelating agent and a second component comprising said phosphorous acid, the salt or hydrate thereof is 3:1 on a weight to weight basis.